

## What is Claimed Is

1. A process for preparing cis- or trans-1,2-diaminocyclohexane-N,N,N',N'-tetraacetic acid which comprises the steps of
  - (a) neutralizing an aqueous solution of chloroacetic acid with a non-metal amino or hydroxy base;
  - (b) reacting cis- or trans-1,2-diaminocyclohexane with a non-metal amino or hydroxy base;
  - (c) treating the product from step (b) with a dilute solution of sodium hydroxide;
  - (d) treating the resulting product of step (c) with acid and then
  - (e) recovering the product formed.
2. The process of claim 1 wherein step (a) is conducted at a temperature not greater than 10°C.
3. The process of claim 2 wherein the reaction of step (b) is at a temperature between 75°-80°C.
4. The process of claim 3, comprising the steps of:
  - (a) neutralizing chloroacetic acid in an aqueous medium with a non-metal amino or hydroxy base compound at a temperature of less than 10°C;
  - (b) reacting said neutralized chloroacetic acid with 1,2-diaminohexane at a temperature of less than 80°C;
  - (c) adding a non-metal amino or hydroxy base to complete neutralization so as to form an aqueous mixture;
  - (d) heating the aqueous mixture to a temperature of less than 100°C;
  - (e) filtering the mixture from (d);
  - (f) treating the aqueous filtrate with hydrochloric acid until a precipitate forms;
  - (g) filtering the aqueous filtrate; and then
  - (h) recovering 1,2-diaminocyclohexanetetraacetic acid and optionally redissolving said 1,2-diaminocyclohexanetetraacetic acid in an aqueous solution and repeating steps (c).
5. The process of claims 1 or 3 wherein the non-metal amino or hydroxy base is selected from the group consisting of sodium hydroxide, tetramethyl ammonium hydroxide, tetraethylammonium hydroxide, monoethanolamine, isopropylamine, diethanolamine, 2-amino-1-propanol, 2-amino-2-ethoxy propanol and mixtures thereof.

6. The process of claims 1 or 3 wherein the non-metal amino or hydroxy base in step (a) is different from that used in step (c).
7. The process of claims 1 or 3 wherein the non-metal amino or hydroxy base in step (a) is tetramethylammonium hydroxide and in step (b) ammonium hydroxide.
8. The process of claims 1 or 3 wherein sodium hydroxide is used as hydroxy base in steps (a) and (c).